

CLAIMS

1. An improved SCR system for treating combustion exhaust gas containing NO and particulates, comprising in combination and in order, an oxidation catalyst effective to convert and enhance the NO₂ content of the exhaust gas, a particulate trap, a source of reductant fluid, injections means for such reductant fluid located downstream of said particulate trap and an SCR catalyst.
2. An SCR system according to claim 1, wherein the reductant fluid is NH₃.
3. An SCR system according to claim 1 or 2, wherein the oxidation catalyst is a platinum catalyst carried on a through-flow honeycomb support.
4. An SCR system according to claims 1, 2 or 3 wherein the particulate filter is a wall-flow filter.
5. An SCR system according to any one of the preceding claims, comprising also means to cool gases upstream of the SCR catalyst.
6. An SCR system according to claim 5, comprising also control means such that said gas cooling means is activated only when a high SCR catalyst temperature is detected or conditions are determined that are expected to lead to high catalyst temperatures.
7. A diesel engine provided with an SCR system according to any one of claims 1 to 5.
8. A light duty diesel engine according to claim 6, wherein the volume of the exhaust gas after-treatment system is reduced.
9. A method of reducing pollutants, including particulates and NO_x, in gas streams, comprising passing such gas stream over an oxidation catalyst under conditions effective to convert at least a portion of NO in the gas stream to NO₂ and enhance the NO₂ content of the

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gas stream, removing at least a portion of said particulates in a particulate trap, reacting trapped particulate with NO_2 , adding reductant fluid to the gas stream to form a gas mixture downstream of said trap, and passing the gas mixture over an SCR catalyst under NO_x reduction conditions.

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10. A method according to claim 9, wherein said gas stream is the exhaust from a diesel, GDI or CNG engine.

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11. A method according to claim 9 or 10, wherein the gases are cooled, if necessary, before reaching the SCR catalyst.

12. A method according to claim 9, 10 or 11, wherein the NO to NO_2 ratio in the gases is adjusted to a level pre-determined to be optimum for the SCR catalyst, by oxidation of NO over an oxidation catalyst.

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